

BEAM FILLED WITH MATERIAL, DECK SYSTEM AND METHOD

ABSTRACT OF THE DISCLOSURE

A construction beam includes a tubular housing preferably formed of a fiber-reinforced polymer filled with a solid filler material such as concrete. The Poisson's ratio of the tubular housing is less than the filler material to provide confinement of the filler material. One or more reinforcing rods or cables may be embedded in the filler material and prestressed prior to setting the filler material to control cracking of the filler material and to allow for an increased moment of inertia and stiffness. The resulting construction is particularly strong, lightweight and essentially impervious to environmental conditions.